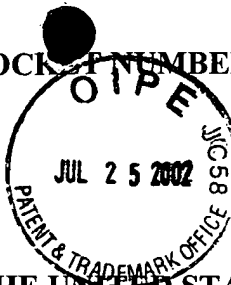


ATTORNEY DOCKET NUMBER:  
11321-P002D1

PRIOR SERIAL NO.  
09/722,950



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Richard E. Smalley *et al.*  
Prior Serial No.: 09/722,950  
Filing Date: November 27, 2000  
Prior Art Unit: 1741  
Prior Examiner: Not yet assigned

PATENTS

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For: **ROPES OF SINGLE-WALL CARBON NANOTUBES**

Assistant Commissioner for Patents  
Washington, DC 20231

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Carolanne M. King  
Signature

Carolanne M. King  
Printed Name

July 22, 2002  
Date

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §§1.56 AND 1.97(c)**

Assistant Commissioner for Patents  
Washington, DC 20231

Dear Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO/SB/8A be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R §§ 1.97(g) and (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to

be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement; however, should any fees be deemed necessary for any reason relating to this submission, the Assistant Commissioner is hereby authorized to deduct said fees from Winstead Sechrest & Minick Deposit Account No. 23-2426/11321-P002D1.

Applicant respectfully requests that the listed documents be made of record in the present case.

Respectfully submitted,  
WINSTEAD SECHREST & MINICK P.C.



---

Robert C. Shaddox  
Reg. No.: 34,011  
910 Travis St., Suite 2400  
Houston, Texas 77002  
Phone: 713-650-2764  
FAX: 713-650-2400

Dated: July 22, 2002

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Direct Dial: (713) 650-2764  
rshaddox@winstead.com

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*Carolanne M. King*  
Carolanne M. King

Assistant Commissioner for Patents  
Washington, DC 20231

RE: *U.S. PATENT APPLICATION SERIAL NO. 09/722,950; ENTITLED: "ROPES OF SINGLE-WALL CARBON NANOTUBES"; INVENTORS: RICHARD E. SMALLEY ET AL; RICE TECH ID: 10110; WSM REF. NO. 11321-P002D1*

Sir:

Enclosed please find the following documents for filing in the above referenced patent application:

- (1) An Information Disclosure Statement;
- (2) Form PTO/SB/08A;
- (3) Copies of references listed on Form PTO/SB/08A; and
- (4) A return postcard to acknowledge receipt of these materials. Please date stamp and mail this postcard.

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Assistant Commissioner for Patents

July 22, 2002

Page 2

Please forward any reply to this communication directly to our Houston office for docketing purposes. The mailing address is 910 Travis Street, Suite 2400 Houston, Texas 77002, and the Houston fax number is (713) 650-2400.

Respectfully submitted,



Robert C. Shaddox

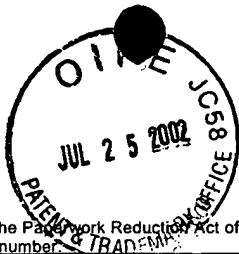
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cc: Daryl S. Boudreaux, Ph.D. (w/encl.)  
Carolanne M. King (w/o encl.)

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Substitute for form 1449A/PTO		<b>Complete if Known</b>	
		Application Number	09/722,950
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Filing Date	November 27, 2000
		First Named Inventor	Richard E. Smalley
		Art Unit	1741
		Examiner Name	Not yet assigned
		Attorney Docket Number	11321-P002D1
Sheet	1	of	4

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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US- 5,698,175	12-16-1997	Hiura et al.	
		US- 5,591,312	01-07-1997	Smalley	
		US- 5,589,152	12-31-1996	Tennent et al.	
		US- 5,578,543	11-26-1996	Tennent et al.	
		US- 5,500,200	03-19-1996	Mandeville et al.	
		US- 5,457,343	10-10-1995	Ajayan et al.	
		US- 5,424,054	06-13-1995	Bethune et al.	
		US- 5,346,683	09-13-1994	Green et al.	
		US- 5,338,571	08-16-1994	Mirkin et al.	
		US- 5,336,360	08-09-1994	Nordine	
		US- 5,300,203	04-05-1994	Smalley	
		US- 5,300,023	04-05-1994	Lowery et al.	
		US- 5,227,038	07-13-1993	Smalley et al.	
		US- 5,171,560	12-15-1992	Tennent	
		US- 5,165,909	11-24-1992	Tennent et al.	
		US- 4,663,230	05-05-1987	Tennent	
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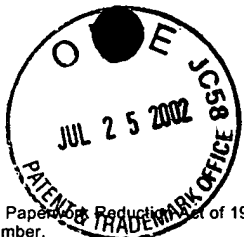
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. 1	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Country Code 3 - Number 4 - Kind Code 5 (if known)				
		EP 0591595 A1	10-08-1992	Europe		
		WO 98/05920	02-12-1998	PCT		
		WO 97/09272	03-13-1997	PCT		
		WO 96/38705	12-05-1996	PCT		
		WO 96/18059	06-13-1996	PCT		
		WO 98/07163	08-10-1989	PCT		

Examiner Signature	Date Considered
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		Application Number	09/722,950
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Filing Date	November 27, 2000
		First Named Inventor	Richard E. Smalley
		Group Art Unit	1741
		Examiner Name	Not yet assigned
		Attorney Docket Number	11321-P002D1
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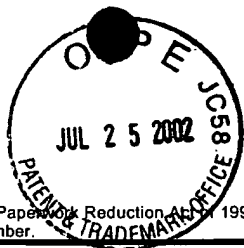
OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
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		Ajayan et al., "Growth morphologies during cobalt catalyzed single-shell carbon nanotube synthesis," Chem. Phys. Lett., 215:509-517, 1993.	
		Bali, "The perfect nanotube," Nature, 382:207-208, 1996.	
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		Chai et al., "Fullerenes with metal inside," J. Phys. Chem., 95(20):7564-7568, 1991.	
		Dai et al., "Single-wall nanotubes produced by metal-catalyzed disproportionation of carbon monoxide," Chem. Phys. Lett. 260:471-475, 1996.	
		Dai et al., "Nanotubes as nanotubes in scanning probe microscopy", Nature, 384:147-150, 1996.	
		Dresselhaus et al., Science of Fullereness and Carbon Nanotubes, Academic Press, San Diego, California, Chapter 19, pp. 756-760, 1996.	
		Ebbesen et al., "Carbon nanotubes," Annual Review of Materials Science, 24:235-264, 1994.	
		Ebbesen et al., "Large-scale synthesis of carbon nanotubes," Nature, 358:220-222, 1992.	
		Ge et al., "Scanning tunneling microscopy of single-shell nanotubes of carbon," Applied Physics Letters, 65(18):2284-2286, 1994.	
		Guo et al., "Catalytic growth of single-walled nanotubes by laser vaporization," Chemical Physics Letters, 243(1-2):49-54, 1995.	

Examiner Signature		Date Considered	
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		<b>Application Number</b>	09/722,950
<b>Sheet</b>	3	<b>Filing Date</b>	November 27, 2000
<b>of</b>	4	<b>First Named Inventor</b>	Richard E. Smalley
		<b>Group Art Unit</b>	1741
		<b>Examiner Name</b>	Not yet assigned
		<b>Attorney Docket Number</b>	11321-P002D1

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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
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		Guo et al., "Production of single-walled carbon nanotubes via laser vaporization technique," Proc. Symp. Recent Adv. Chem. Phys. Fullerenes & Rel. Mater., Proc. Fullerenes Chem., Phys. New Directions VII, Reno, NV, May-16-21, Electrochem. Soc.	
		Guo et al., "Self-assembly of tubular fullerenes," J. Phys. Chem., 99:10694-10697, 1995.	
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		Iijima et al., "Helical microtubules of graphitic carbon," Nature, 354:56-58, 1991.	
		Iijima et al., "Single-Shell Carbon Nanotubes of 1-nm Diameter," Nature, 363(6430):603-605, 1993.	
		Journet et al., "Large scaled production of single-wall carbon nanotube tubes by electric arc technique," Nature, 388:756-758, 1997.	
		Lambert et al., "Improving conditions toward isolating single-shell carbon nanotubes," Chem. Phys. Lett., 226:364-371, 1994.	
		Saito et al., "Carbon nanocapsules encaging metals and carbides," J. Phys. Chem. Solids, 54:1849-1860, 1993.	
		Saito et al., "Extrusion of single-wall carbon nanotubes via formation of small particles condensed near an evaporation source," Chem. Phys. Lett., 236:419-426, 1995.	

<b>Examiner Signature</b>		<b>Date Considered</b>	
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		<b>Application Number</b>	09/722,950
		<b>Filing Date</b>	November 27, 2000
		<b>First Named Inventor</b>	Richard E. Smalley
		<b>Group Art Unit</b>	1741
		<b>Examiner Name</b>	Not yet assigned
		<b>Attorney Docket Number</b>	11321-P002D1
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		Seraphin et al., "Single-walled tubes and encapsulation of nanocrystals into carbon clusters," Electrochem. Soc., 142:290-297, 1995.	
		Thess et al., "Crystalline ropes of metallic carbon nanotubes," Science, 273(5274):483-487, 1996.	
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		Venema et al., "Length control of individual carbon nanotubes by nanostructuring with a scanning tunneling microscope", Applied Physics Letters, 71(18):2629-2631, 1997.	
		Wang et al., "Stable glow discharge for synthesis of carbon nanotubes," Applied Physics Letters, 66(4):427-429, 1995.	
		Wilson et al., "Morphological modeling of atomic force microscopy imaging including nanostructure probes and fibrinogen molecules", J. Vac. Sci. Technol., B 14(4):2407-2416, 1996.	
		Yu Rongqing et al., "Purification and end-opening of carbon", Chemical Abstracts, 125(4):25-26, Abstract No. 210969, 1996.	
		Zhou et al., "Single-Walled Carbon Nanotubes Growing Radially From YC.sub.2 Particles," Applied Physics Letters, 65(12):1593-1595, 1994.	

<b>Examiner Signature</b>		<b>Date Considered</b>	
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